STRP PRSTC

Strategic Transit Research Program

Programme de recherche stratégique de transport en commun

STRP Synthesis S2

Transit and School Transportation:

Experience and Alternative Approaches from the Literature

a project managed by
un projet dirigé par

cuta actu

Canadian Urban Transit Association
Association canadienne du transport urbain

42

101-02575/

The Strategic Transit Research Program (STRP) is a National cooperative research program for the Canadian urban transit industry. This program is coordinated and managed by the Canadian Urban Transit Association (CUTA), and has been made possible through the financial support of the following organizations:

Le programme de recherche stratégique de transport en commun (PRSTC) est un programme national et coopératif de recherche pour l'industrie du transport en commun au Canada. La coordination et gestion de ce programme est assurée par l'Association canadienne du transport urbain. Le programme est rendu possible par le soutien financier des organisations suivantes:

TRANSPORT CANADA / TRANSPORTS CANADA

MINISTÈRE DES TRANSPORTS DU QUÉBEC
MINISTRY OF TRANSPORTATION OF ONTARIO

SOCIÉTÉ DE TRANSPORT DE LA COMMUNAUTÉ URBAINE DE MONTRÉAL
OTTAWA-CARLETON REGIONAL TRANSIT COMMISSION
EDMONTON TRANSIT
CALGARY TRANSIT
WINNIPEG TRANSIT
COMMISSION DE TRANSPORT DE LA COMMUNAUTÉ URBAINE DE QUÉBEC
HAMILTON STREET RAILWAY
MISSISSAUGA TRANSIT
SOCIÉTÉ DE TRANSPORT DE LA VILLE DE LAVAL
LONDON TRANSIT COMMISSION
HALIFAX REGIONAL MUNICIPALITY
SOCIÉTÉ DE TRANSPORT DE L'OUTAOUAIS

Canadian Urban Transit Association
Association canadienne du transport urbain

Tel: (416) 365-9800
Fax: (416) 365-1295
E-mail / courriel : transit@cutaactu.on.ca
Web : www.cutaactu.on.ca

cuta actu
Canadian Urban Transit Association
Association canadienne du transport urbain

STRP Synthesis S2

Transit and School Transportation:

Experience and Alternative Approaches from the Literature

Prepared by:

IBI Group

November 2000

CUTA Mission Statement

CUTA is the association of providers of urban transit services, suppliers and related organizations in Canada. Its mission is to promote the role of urban transit in enhancing mobility, and to support its members in the fulfilment of their mandate.

Disclaimer

The contents of this report reflect the views of the author(s) based on their research, but do not necessarily reflect the official views or opinions of the Canadian Urban Transit Association, nor of the organizations funding the Strategic Transit Research Program.

Printed and bound in Canada

Toronto, 2000

STRP S2
ISBN 0-920559-58-1

CUTA REPORT DOCUMENTATION FORM

CUTA Synthesis No.	ISBN No.	Publication Date
STRP Synthesis S2	0-920559-58-1	November 2000

Title and Sub-Title

Transit and School Transportation:
Experience and Alternative Approaches

Author

Dawson Catton

Performing Agency

IBI Group
230 Richmond St. West, 5th Floor
Toronto, ON M5V 1V6 Canada
Tel: (416) 596-1930
<www.ibigroup.com>

Project Manager

Brendon Hemily, Ph.D.
Manager of Research and Technical Services
Canadian Urban Transit Association

Sponsoring Agency

Canadian Urban Transit Association (CUTA)
55 York Street, Suite 901
Toronto, Canada M5J 1R7
Tel: (416) 365-9800
<transit@cutaactu.on.ca>

Supplementary Notes

This report was prepared under CUTA's Strategic Transit Research Program which is co-funded by Transport Canada, the provinces of Quebec and Ontario, and twelve local transit systems.

Abstract

This research project determines the extent that students are being served by municipal transit systems versus the yellow school bus services of the School Boards, and synthesizes the various approaches that have been implemented to accommodate school transportation demands and increase student ridership on the transit systems.

The project reviewed student ridership statistics and concluded that of the 23 municipal transit systems that have had ridership increases in Canada over the past decade, 19 have been working closely with their school boards to accommodate students for school transportation purposes. In many cases, students were the main reason for the ridership increases.

To determine what the transit systems have been doing to increase their student ridership, and how students and their school transportation needs are being accommodated when most municipal transit systems are operating under constrained budgets, the project surveyed a cross-section of municipal transit systems to synthesize the approaches and administrative arrangements that are being applied. Three transit/school transportation approaches were identified; fare-related approaches, service-related approaches, and operations-related approaches. Two administrative arrangements were identified; informal partnerships and formal partnerships with the school boards.

Key Words	Language
Urban Transit; Transit Planning; School Transportation	English (Ce rapport sera disponible en français)
No. of Pages 37	Distribution This report is available from CUTA.

Table of Contents

1. **EXECUTIVE SUMMARY** 1

   1.1 STUDENT TRANSPORTATION STATISTICS *1*
   1.2 SCHOOL TRANSPORTATION APPROACHES *3*
   1.3 ADMINISTRATIVE ARRANGEMENTS *6*

2. **STUDENT TRANSPORTATION EXPERIENCE** 8

   2.1 ALBERTA MUNICIPALITIES *8*
   2.2 BRITISH COLUMBIA MUNICIPALITIES *8*
   2.3 MANITOBA MUNICIPALITIES *9*
   2.4 NEW BRUNSWICK MUNICIPALITIES *9*
   2.5 NEWFOUNDLAND MUNICIPALITIES *9*
   2.6 NOVA SCOTIA MUNICIPALITIES *9*
   2.7 ONTARIO MUNICIPALITIES *10*
   2.8 QUEBEC MUNICIPALITIES *11*
   2.9 SASKATCHEWAN MUNICIPALITIES *11*
   2.10 SUMMARY OF CANADIAN EXPERIENCE *11*

3. **TRANSIT/SCHOOL TRANSPORTATION APPROACHES** 13

   3.1 SCHOOL TRANSPORTATION OBJECTIVES *13*
   3.2 FARE RELATED APPROACHES *15*
   3.3 SERVICE RELATED APPROACHES *17*
   3.4 OPERATIONS RELATED APPROACHES *19*

4. **ADMINISTRATIVE ARRANGEMENTS** 20

   4.1 INFORMAL PARTNERSHIPS *20*
   4.2 FORMAL PARTNERSHIPS *22*

5. **CONCLUSIONS** 23

APPENDICES

A. Survey Questionnaire on School Transportation Approaches

B. Bibliography

LIST OF EXHIBITS **Page No.**

Exhibit 1: Ten Year Student Transportation Statistics for Municipal Transit Systems 2

Exhibit 2: Survey of Transit and School Transportation; Experience and Approaches 14

STRP Synthesis
Transit and School Transportation: Experience and Alternative Approaches

1. EXECUTIVE SUMMARY

Municipal transit systems are responsible for providing transit services to accommodate the travel needs of the general public including students attending the schools, colleges and universities in the service areas. Students are a major market and, in many cases, are the largest market for public transportation services in municipalities. While the majority of municipal transit systems have experienced a drop in overall ridership in the past decade, a number of the systems have actually increased their student ridership which is against the trend. In some municipalities, students are served exclusively by the municipal transit system and can account for 40% or more of the transit system's ridership. In most municipalities, they are served by a combination of the municipal transit system and the school bus systems of the school boards; in the municipalities where the school boards provide most of the school transportation services, students can account for less than 20% of the transit system's ridership.

What have the transit systems done to increase their student ridership? How are students and their school transportation needs accommodated when most municipal transit systems have been constrained by limited budgets? While the extent that municipal transit systems can or should be serving school transportation needs has been the subject of considerable debate among transit agencies and school boards, the ability of municipalities to deliver acceptable levels of transit service at low cost depends to a large extent on how students and their school transportation needs are accommodated by the transit systems. With school transportation, transit systems can better fill their unused capacities and can provide levels of service and costs more acceptable to the general public.

The focus of this research project is to determine the extent that students are being served by municipal transit systems versus the yellow school bus services of the School Boards, and to synthesize the various approaches that have been implemented to accommodate school transportation demands and increase student ridership on the transit systems.

1.1 STUDENT TRANSPORTATION STATISTICS

While all transit systems carry student riders, not all systems accommodate students for school transportation purposes. School transportation, in the transit context, ranges from tailoring transit routes and schedules to the specific needs of students requiring home to school transportation, to arranging with School Boards, Colleges and Universities to accommodate their students on the transit system.

Background information for the project comes from three sources; the operating data reported to the Canadian Urban Transit Association by member transit systems, survey and follow-up interviews with a cross-section of transit systems, and literature and reports assembled by CUTA and the consultant. A copy of the survey questionnaire is attached in the Appendix A. A bibliography of the literature is provided in Appendix B.

Most of the transit systems that accommodate students for school transportation purposes have higher riderships (see Exhibit 1):

Exhibit 1

Ten Year Student Transportation Statistics for Municipal Transit Systems

(where breakdown by ridership category was available)

Municipality	1989 Population Served	1989 Service Hours	1989 Ser. Hrs Per Cap	1989 Total Ridership	1989 Student Ridership	1989 % Stud	1989 Stu Trips Per Cap	1998 Population Served	1998 Service Hours	1998 Ser. Hrs Per Cap	1998 Total Ridership	1998 Student Ridership	1998 % Stud	1998 Stu Trips Per Cap	1998 Net Cost Per Pass	Transports Students (n)	Transports Sec. Stud (o)	Tuition Pass for Post Sec (p)
Alberta																		
Calgary	666,000	1,250,000	1.87	49,844,389	10,173,758	20%	15.2	816,000	1,551,825	1.89	70,063,000	21,053,000	30%	25.7	$ 0.73	Yes	Yes	
Edmonton	584,000	1,466,821	2.56	61,474,508	12,304,262	20%	21.1	648,000	1,400,000	2.16	41,900,000	16,681,547	40%	25.7	$ 1.10	Yes	Yes	
Lethbridge	60,000	75,360	1.26	2,148,900	462,000	22%	8.2	66,000	73,034	1.06	2,299,733	488,617	21%	7.1	$ 0.83			
Red Deer	58,000	54,586	0.97	1,883,000	1,047,660	63%	18.7	63,000	56,100	0.87	2,134,915	1,457,103	69%	23.1	$ 0.64	Yes	Yes	
Medicine Hat	42,000	46,425	1.11	805,463	167,029	21%	4.0	50,000	53,900	1.06	741,215	174,566	24%	3.5	$ 2.06			
Total	1,411,000	2,923,232	2.07	95,936,258	24,184,736	25%	17.1	1,643,000	3,133,859	1.90	117,108,818	39,853,223	34%	24.2	$ 0.87			
British Columbia																		
Vancouver	1,241,000	3,082,441	2.48	110,072,000	20,500,000	19%	16.5	1,834,000	4,038,960	2.47	124,131,480	26,000,000	21%	15.9	$ 1.32	Yes		
Victoria	263,000	364,712	1.39	15,063,032	2,831,850	19%	10.8	322,000	569,133	1.74	17,080,017	2,322,862	14%	7.2	$ 1.18			Yes
Total	1,504,000	3,447,153	2.29	125,135,032	23,331,850	19%	15.5	1,956,000	4,598,101	2.35	141,211,807	28,322,862	20%	14.5	$ 1.31			
Manitoba																		
Winnipeg	606,000	1,413,863	2.33	54,942,508	10,063,170	19%	17.5	618,000	1,299,820	2.09	39,229,000	6,338,000	16%	10.3	$ 0.69			
Brandon	38,000	42,400	1.12	1,217,675	83,000	6%	1.7	40,000	42,157	1.05	726,309	314,735	43%	7.9	$ 1.98			
Total	644,000	1,456,263	2.26	56,159,961	10,846,170	19%	16.5	658,000	1,332,077	2.02	39,962,309	6,652,735	17%	10.1	$ 0.72			
New Brunswick																		
Saint John	80,000	93,500	1.17	2,337,186	747,000	32%	9.3	75,000	91,898	1.22	2,455,821	886,000	36%	11.5	$ 0.81	Yes		
Fredericton	29,000	43,117	1.54	748,298	166,163	22%	6.0	46,000	37,782	0.82	869,184	264,440	44%	8.4	$ 2.72	Yes		
Total	108,000	136,617	1.26	3,085,482	915,163	30%	8.5	121,000	129,480	1.07	3,125,005	1,150,440	37%	9.8	$ 1.08			
Newfoundland																		
St. John's	126,000	129,837	1.03	3,778,812	925,269	24%	7.3	142,000	113,508	0.81	3,298,587	756,208	23%	5.4	$ 1.58			
Nova Scotia																		
Cape Breton	109,000	64,127	0.59	1,030,451	315,849	31%	2.9	109,000	38,362	0.35	967,100	188,700	20%	1.7	$ 0.80			
Halifax	259,000	435,294	1.68	13,802,031	1,155,202	9%	4.5	300,000	479,282	1.60	13,343,000	1,000,000	7%	3.3	$ 0.44			
Total	368,000	499,421	1.36	14,832,482	1,471,051	10%	4.0	409,000	517,644	1.24	14,300,100	1,188,700	8%	2.9	$ 0.42			
Ontario																		
Toronto	2,133,000	8,535,000	4.00	480,700,000	58,900,000	12%	27.6	2,385,000	8,049,103	3.37	388,699,000	52,194,000	13%	21.9	$ 0.33	Yes	Yes	
Ottawa	568,000	2,204,861	3.88	80,045,000	17,298,720	22%	30.4	660,000	1,935,495	2.93	70,374,183	19,352,895	28%	29.3	$ 0.82	Yes	Yes	
Mississauga	423,000	671,977	1.59	19,540,880	1,698,179	9%	4.0	519,000	769,900	1.48	23,218,954	4,527,306	19%	8.7	$ 0.61	Yes		
Hamilton	394,000	850,347	2.16	27,335,249	5,317,436	19%	13.5	412,000	544,877	1.32	16,406,050	5,893,479	36%	14.3	$ 1.14			Yes
London	292,000	611,500	2.09	18,878,000	1,894,000	10%	6.5	318,000	522,100	1.65	12,842,128	3,791,878	29%	12.0	$ 0.84	Yes		Yes
Brampton	218,000	231,525	1.06	5,663,869	1,500,923	27%	6.9	285,000	250,975	0.88	5,957,750	2,144,790	36%	7.5	$ 0.70	Yes		
Kitchener	221,000	296,104	1.34	9,262,782	3,982,139	43%	17.9	263,000	291,587	1.11	8,127,433	3,581,408	44%	13.6	$ 1.00	Yes	Yes	
Windsor	193,000	275,878	1.43	12,134,318	3,713,418	31%	19.2	200,000	292,611	1.46	9,021,972	1,841,087	21%	9.2	$ 0.92	Yes		
Markham	136,000	110,543	0.81	2,810,845	1,113,086	40%	8.2	177,000	109,980	0.62	2,862,262	772,869	27%	4.4	$ 0.79	Yes		
Vaughan	89,000	85,700	0.96	2,543,800	418,400	16%	4.7	154,000	92,433	0.60	2,144,234	300,000	14%	1.9	$ 0.87			
Oshawa	127,000	92,271	0.73	3,582,266	1,934,062	54%	15.2	140,000	86,836	0.69	3,811,124	2,097,153	55%	15.0	$ 0.97	Yes	Yes	
Oakville	108,000	89,880	0.85	2,466,334	267,308	11%	2.5	135,000	134,583	1.00	2,079,099	225,430	11%	1.7	$ 1.48			
St. Catharines	140,000	178,122	1.27	4,338,515	957,100	22%	6.8	147,000	126,715	0.86	2,649,866	1,027,578	39%	7.0	$ 1.20	Yes		
Burlington	115,000	88,089	0.77	2,284,081	1,256,234	55%	10.9	130,000	106,790	0.81	1,304,384	352,184	27%	2.7	$ 2.35			
Thunder Bay	112,000	177,811	1.59	4,949,858	1,101,086	24%	9.8	112,000	158,440	1.41	3,255,936	761,899	23%	6.8	$ 1.80	Yes		
Richmond Hill	78,000	28,740	0.37	366,700	170,700	47%	2.2	116,000	45,790	0.39	715,199	350,240	49%	3.0	$ 2.41	Yes		
Kingston	89,000	129,584	1.46	3,855,074	750,799	21%	8.4	100,000	106,900	1.10	2,526,582	1,313,766	52%	13.1	$ 0.88	Yes		Yes
Guelph	85,000	85,705	1.01	3,430,442	360,850	10%	4.2	98,000	93,909	0.96	3,817,263	304,400	8%	3.1	$ 0.38			
Cambridge	81,000	72,589	0.90	1,818,897	983,908	35%	7.0	90,000	61,744	0.69	1,080,883	404,984	37%	4.5	$ 1.71	Yes		
Barrie	54,000	58,872	1.11	1,342,000	167,676	12%	3.1	81,000	71,484	0.88	1,388,276	417,871	33%	5.2	$ 0.78			
Pickering	55,000	45,020	0.82	775,992	394,585	51%	7.2	79,000	44,575	0.56	1,027,974	522,891	51%	6.6	$ 1.25	Yes		
Sault Ste. Marie	73,000	106,446	1.44	3,182,201	829,498	26%	11.3	73,000	68,802	0.94	1,268,895	588,011	47%	8.2	$ 1.84			
Peterborough	62,000	73,335	1.18	2,772,115	800,000	29%	12.9	68,000	60,850	0.90	1,888,800	985,500	52%	14.5	$ 0.87			Yes
Whitby	49,000	38,401	0.78	308,341	171,369	56%	3.5	65,000	40,468	0.62	780,069	462,548	59%	7.0	$ 1.45	Yes		
Ajax	47,000	35,990	0.77	865,000	430,000	48%	9.1	60,000	48,575	0.78	1,203,788	602,208	50%	10.0	$ 0.88	Yes		
Newmarket	40,000	30,818	0.77	788,846	552,262	70%	13.8	58,000	35,215	0.63	911,750	638,215	70%	11.4	$ 0.66		Yes	
Belleville	35,000	37,911	1.08	984,588	135,000	14%	3.9	51,000	29,054	0.57	572,384	116,110	20%	2.3	$ 1.10			
Cornwall	46,000	41,782	0.91	2,029,369	1,436,784	71%	31.2	50,000	48,790	0.98	1,195,194	804,368	67%	16.1	$ 1.11	Yes	Yes	
North Bay	48,000	72,494	1.51	2,787,304	1,678,580	60%	35.0	48,000	68,849	1.41	2,084,676	1,244,189	60%	25.4	$ 0.68	Yes	Yes	
Welland	44,000	37,748	0.86	527,763	183,585	35%	4.2	46,000	27,649	0.60	341,670	119,584	35%	2.6	$ 2.50			
Timmins	48,000	55,308	1.20	2,027,297	629,000	31%	13.7	45,000	40,278	0.90	983,264	132,650	20%	2.9	$ 1.88			
Total (ex. Toronto)	4,088,000	6,918,187	1.70	222,701,113	51,674,864	23%	12.7	4,777,000	6,322,945	1.32	181,888,150	58,865,467	31%	11.7	$ 0.87			
Quebec																		
Moreal	1,752,000	7,862,534	4.37	392,999,146	72,865,910	19%	41.6	1,776,000	5,752,800	3.24	340,295,559	60,358,884	18%	34.0	$ 0.78	Yes	Yes	
Quebec City	438,000	1,143,193	2.61	41,527,284	15,863,793	38%	36.8	484,000	1,002,282	2.03	37,742,153	18,264,372	48%	37.0	$ 0.68	Yes	Yes	
Moreal S. Shore	324,000	818,573	2.53	25,716,867	5,979,549	23%	18.5	349,000	840,880	2.41	27,509,923	7,027,588	26%	20.1	$ 1.23	Yes		
Laval	300,000	390,290	1.30	16,981,103	5,589,774	33%	18.6	330,000	785,756	2.38	16,581,240	4,983,172	30%	15.0	$ 1.81	Yes		
Hull	171,000	362,998	2.12	10,287,713	2,836,474	28%	16.4	229,000	360,867	1.62	11,750,908	3,212,463	27%	14.0	$ 0.87	Yes		
Sherbrooke	115,000	276,074	2.40	7,036,869	2,723,191	39%	23.7	117,000	225,908	1.93	8,401,686	3,110,838	49%	26.6	$ 0.84	Yes	Yes	
Total (ex. Moreal)	1,348,000	2,991,126	2.22	101,549,836	32,992,781	32%	24.2	1,519,000	3,224,192	2.12	100,015,918	36,578,233	37%	24.1	$ 1.23			
Saskatchewan																		
Saskatoon	178,000	326,525	1.83	11,844,100	2,051,400	17%	11.5	207,000	278,570	1.35	8,010,348	2,304,267	29%	11.1	$ 0.90	Yes		
Regina	179,000	322,544	1.80	8,532,630	1,502,611	18%	8.4	169,000	253,045	1.50	6,636,825	2,268,470	34%	13.4	$ 0.84	Yes		
Total	357,000	649,069	1.82	20,376,730	3,563,011	17%	10.0	376,000	531,615	1.41	14,647,174	4,572,737	31%	12.2	$ 0.87			
All Systems	9,932,000	19,148,936	1.93	643,353,327	149,298,586	23%	15.0	11,606,000	19,863,421	1.71	619,545,637	174,752,815	28%	15.1	$ 1.09			

(n) shows the transit systems that transport students for the school boards. In most cases, the school boards provide school busing for those eligible students not served by transit.

(o) shows the transit systems that transport secondary school students exclusively. In these cases, there is no Board-supported school busing for secondary school students.

(p) shows the transit systems that transport post secondary school students using tuition passes. Tuition passes are provided to all students through a surcharge on the tuition.

Source: CUTA Operating Data

T2

- students on the accommodating transit systems average 20 passenger trips per capita annually and account for up to 40% of the ridership on large transit systems serving populations over 500,000 people, and up to 70% of the ridership on small transit systems serving populations under 100,000 people; the actual figures range from 11 to 37 student passenger trips per capita annually on the 37 municipal transit systems in this category;

- students on the non-accommodating transit systems average 4 passenger trips per capita and account for 17% of the ridership; the actual figures range from 2 to 6 student passenger trips per capita on the 16 municipal transit systems in this category. Most of the transit systems in this category serve populations under 100,000 people.

Of the 53 municipal transit systems reviewed for this project, 23 transit systems have had increasing riderships over the past decade and 19 of these have been accommodating students for school transportation purposes. Of the 30 transit systems that have had declining riderships over the past decade, 18 have been accommodating students for the school transportation purposes and in 14 of these, student ridership has actually been increasing; in these cases, the ridership declines would have been greater if the transit system was not providing service for school transportation purposes.

1.2 SCHOOL TRANSPORTATION APPROACHES

The Canadian experience shows that the provision of school transportation services can yield significant benefits to municipalities. The challenge is to find the approaches that will yield the highest ridership at the lowest cost to taxpayers. The main objective, and the reason that most transit systems are accommodating students for school transportation purposes, is to save taxpayers money by increasing revenues and reducing net operating costs to save taxpayers' money. The approaches are related to fares, services, and operations:

- **Fare Related Approaches** – the most common approach for providing service for school transportation purposes is to give students discounted fare rates on regular transit services including:

  - *Cash Discounts* - 51 transit systems offer primary school students and 35 transit systems offer secondary school students a discounted cash fare. The cash discount is normally about 25% of the adult cash fare and, in most cases, ranges from $1.00 to $1.75 when the adult fare is $1.50 to $2.00;

  - *Ticket/Ride Card Discounts* - 44 transit systems offer primary school students and 42 transit systems offer secondary school students a discounted ticket or ride card. The discount and ranges are about the same as the cash discounts.

  - *Unrestricted Monthly Pass Discounts* - 40 transit system offer primary school students, 56 transit systems offer secondary school students and 23 transit systems offer post secondary students a discounted unrestricted monthly pass. The discount is

normally 15% to 40% of the adult monthly pass rate and ranges from a monthly rate of $19.50 in the small transit systems to $75.00 in the large transit systems.

- *Restricted Monthly Pass Discounts* - 4 transit systems offer primary school students and 10 transit systems offer secondary school students discounted restricted monthly pass. The restricted pass can only be used on school days usually during the daytime only. The discount ranges from 10 to 50% of the unrestricted student rate. Restricted unit prices range from $0.50 to $1.00 per ride which compares to per student school busing costs which experience has shown can range from $0.30 to $0.75 per trip for secondary students. While the restricted monthly pass has the advantage of being more competitive with school busing costs, it is not as convenient for users, particularly for students attending after hours extra-curricular activities and jobs. It can also cause fare disputes because of the restrictions.

- *School Board Discounts* - most transit system provide the school boards with monthly passes or tickets for use by eligible secondary school students on the transit system; the school boards purchase the passes or tickets at agreed rates and distribute them to the eligible students requiring transportation. The school board rates are usually the established discounted student restricted or unrestricted monthly pass rates, although a few transit systems further discount the pass rates to make them competitive with yellow school busing costs. This is the fare area where there is considerable potential to increase student ridership and revenues. The student monthly pass rate in many transit systems exceeds the cost of transporting students by school bus; in some cases, it can cost an average of $1.00 per trip to transport a secondary student on a $44.00 monthly pass versus $0.75 or less per trip to transport a secondary student on school buses. If school transportation can help transit fill its unused capacity, then transit cost increases can be kept to a minimum and lower rates can be negotiated with the school boards. The transit systems in the South York Region (Richmond Hill, Markham, Vaughan) are considering a special rate of $0.50 per trip on school days ($20.00 monthly school day pass rate) to transport students for the school boards if existing capacities are utilized and transit costs are not increased.

- *Ride Discounts with Semester Passes* - 20 transit systems offer post secondary students 3, 4 or 5 month transit passes to cover the College and University semesters. They are usually for unrestricted use during the semester. The semester pass rates are usually based on the student monthly pass rate and are usually not discounted more than the monthly pass rate. Semester passes are issued as a convenience to users for school transportation purposes, and are not considered to be a ridership generating strategy.

- *Ride Discounts Using Tuition Passes* - 6 transit systems identified in the study, provide post secondary students with passes for unrestricted use of the transit system during the school year. The cost of the tuition passes are covered in the College and University tuition fees and are made available to all undergraduate students for the semester or school year. They are provided at a fraction of the cost of a monthly pass since all students are charged this fee in their tuition, but many do not use the

pass consistently. Most transit systems provide tuition passes at about a 65% discount over the cost of student monthly passes for the school term. Tuition passes are proving to be a major contributor to high student ridership on transit systems with Colleges and Universities. While tuition passes may increase ridership to the point that additional services are required, when they are properly priced they can produce revenue that more than offsets any cost increases. This will result in an overall saving to the taxpayers.

- **Service Related Approaches** - if the objective is to hold the line on costs, then there is no point in expanding the bus services so that all school board-funded students can be accommodated. A partnership needs to be developed with the school boards so that the most cost-effective mode of transportation is chosen for students requiring school transportation. In this regard, there are three approaches that can be considered when arranging for student travel with the school boards:

  - *Capacity Utilization Strategy* – the most common strategy is to work with the school boards to shift secondary school students to public transit when and where there are empty seats on the transit buses. The objective is to have the seats filled by students at no additional cost to the transit system, and can be a potential saving to the school boards if school bus routes can be shortened or eliminated. This strategy works well when the high school demand is in the opposite direction to the work trip demand; for example, transporting workers to downtown businesses on the inbound trip and secondary students to the high schools outside the downtown on the outbound trip in the morning. To be effective, the capacity utilization strategy needs the cooperation of both parties; the school boards to adjust bell times to spread the loads if necessary, and the municipality to adjust its transit schedules so that the transit system can adhere to the board's time policies, and utilize its available capacity more effectively.

  - *Route Modification Strategy* - this approach modifies transit routes so that more school students can be carried on transit at a lower combined cost to the municipality and school boards. In order of importance, the modification strategies that are normally used include inserting extra buses or trippers in the schedules of critical routes at bell times, increasing the frequencies on the routes in the school corridors during school times, deviating routes or adding special routes to accommodate the school transportation demand at bell times. In all of these strategies, the challenge is to work with the school boards to fill the services that are already in place, or are to be put into place on a cost recovery basis, and to spread the student demand (by adjusting bell times) so that higher frequency better utilized services can be provided to the benefit of all parties; higher frequencies usually attract more riders to the transit system.

  - *Route Integration Strategy* - this a promising new approach which is currently being implemented by the Richmond Hill and Vaughan transit systems. The strategy uses school buses to provide a fixed route, fixed scheduled service in underserved residential areas that have board-funded school transportation services. Initially, the school bus routes are restructured to operate on a fixed schedule fixed route basis

before the morning and following the afternoon bell times, in order to transport students between their homes in the area and a timed-transfer point with the transit system. At the transfer point, the students use the transit system to travel to and from their schools. In later stages, the school bus routes will be opened to the general public and their span of service extended throughout the peak period. The strategy will generate new ridership and revenue for the transit system without increasing the costs as there is available capacity for students on the transit buses in the affected transit corridors, and available capacity for adults on the school buses in the target area. In the case of the school boards, the strategy will enable several school bus runs to be shortened by only travelling to the transfer point, which will reduce their costs. Presently, the municipality and school board are working on a formula to share the cost savings.

- **Operations Related Approaches** - the least common approach to the provision of school transportation services is the approach that has the school boards charter transit buses from the transit system to accommodate its home to school, school to school, or special outing demands. Most transit systems have got out of the school charter business because they do not want to, or can not, compete with the private sector. Private operators maintain that they can provide charter services at lower rates when all costs are taken into account.

  The reverse to the transit charter approach is the approach that has the transit system charter school buses from the school board's bus contractors. While uncommon in Canada, this operating strategy utilizes the resources of local school bus contractors to provide mid-day and/or evening transit services in areas where conventional off-peak services cannot be justified. School bus contractors bid to supply the transit services on a marginal cost basis using their yellow school buses. Marginal costs are the direct cost of drivers, maintenance and profit; marginal costs are used because the contractors have already recovered their capital, administration and overhead costs from the school transportation contracts with the school boards. Markham Transit is applying this concept, and is showing that evening services, using contracted yellow school buses on a marginal cost basis, can be accomplished for about one-half the cost of conventional transit services.

1.3 ADMINISTRATIVE ARRANGEMENTS

While the provision of school transportation services does not require their cooperation, revenues can be increased and operating costs can be reduced if there is a strong relationship with the school boards:

- They influence bell times which determine the timing of the demand for school transportation services.
- They set walking distance criteria which determine who is eligible for home-to-school transportation.
- They set the transportation policies which determine how the eligible students are to be transported.

Almost all properties surveyed for this project, advised that transit systems needed to develop some type of partnership with the local school boards if transit is to provide an effective service for school transportation purposes:

- ***Informal Partnerships*** – most of the partnerships in Canada are informal working relationships between transit system management and the transportation officers of the school boards. The informal partnerships have developed over time to arrange for demand management, operations management, and price negotiation relative to student transportation for school purposes:

  - *Demand management* is related to the control of the number of students that can be carried by the transit and school bus systems cost-effectively; it includes changing bell times and service policies to spread the demand so that there is the efficient utilization of transit and school board resources.

  - *Operations management* is related to transit operating practices and to the school boards being transit's ally in addressing operating problems; parental pressure for door-to-door service, safety concerns particularly related to standing on buses and transferring, resistance to mixing students and adults on transit buses, the handling of disruptive and inappropriate behaviour.

  - *Price negotiation* is one of the most contentious administrative issues because transit often charges student rates that can exceed the per trip costs of transporting students on school buses; the challenge is to work with the school boards to fill the available capacity of the transit system so that lower more competitive rates can be charged creating a "win/win" situation.

- ***Formal Partnerships*** – while uncommon in Canada, a few transit systems have developed more formal arrangements with their school boards in an effort to integrate school board transportation services with the transit services of the municipality in order to provide a broader range of service for student customers and the most efficient utilization of existing public expenditures. Under a formal partnership, the transit system provides management services for a school board including the design, scheduling and monitoring of school transportation services for eligible students; students may be carried on the transit buses and/or on buses chartered from private school bus operators. The school boards set the policies, determine the students to be carried, and enter into the appropriate contracts. The transit system adheres to the Board's service policies and standards, determines who will be carried on the transit system and on school buses, manages the private contracts, and deals with schools on transportation issues and with students/parents on service issues. The formal partnership deals with most of the issues addressed by informal partnerships; the main difference is that the issues are addressed by an agreement that is approved beforehand by both parties. Calgary and Edmonton have formal partnerships with one or both of their school boards.

The experience, approaches and administrative arrangements for school transportation are described in more detail in the following sections.

2. STUDENT TRANSPORTATION EXPERIENCE

Exhibit 1 shows the student transportation statistics reported to the Canadian Urban Transit Association by municipal transit systems serving populations over 40,000. "Student ridership" includes ridership on regular transit service as reported under the child and student concessionary fare categories in CUTA's statistics but excludes all ridership services provided by the transit system to school boards under contract (e.g. charter services). The statistics are provided for the years 1989 and 1998 to show the ten year trend in municipalities across Canada.

2.1 ALBERTA MUNICIPALITIES

Alberta municipalities have expanded their transit services by about 7% over the past ten years which is consistent with the 17% growth in municipal populations. On average, student ridership on the Province's transit systems has grown 65% over the past ten years indicating a substantial increase in the use of transit for school transportation purposes. Overall, students accounted for 34% of the transit ridership in 1998 as compared to 25% of the transit ridership in 1989.

- In Calgary, Edmonton and Red Deer, student ridership levels are over 20 passenger trips per capita which exceeds the levels in most other Canadian municipalities and are high by transit industry standards. In 1998, the three transit systems had high student ridership levels because they transported students to the elementary, secondary and post secondary schools in the service areas, and were the exclusive carrier of eligible secondary school students for the school boards.

- In Lethbridge and Medicine Hat, student ridership levels are under 7 passenger trips per capita which are below the Canadian average and indicative of minimal use of the transit systems by school board-funded students.

2.2 BRITISH COLUMBIA MUNICIPALITIES

British Columbia municipalities have expanded their transit services by about 33% over the past ten years which is consistent with the 30% growth in municipal populations. Student ridership has grown about 15% on the Vancouver transit system and has dropped 18% on the Victoria transit system over the past ten years. Overall, students accounted for about 19% of the transit ridership in 1989 and 1998.

- In Vancouver, the student ridership levels is about 15 passenger trips per capita which are close to the Canadian average. In 1998, the transit system had good student ridership levels because it transported students to the secondary and post secondary schools in the service area, and was the exclusive carrier of eligible secondary school students for the school boards.

- In Victoria, the student ridership level is about 12 passenger trips per capita which is close to the Canadian average. In 1998, the transit system had a good student ridership level because there was extensive use of the transit system by post secondary students using tuition passes; these are low cost transit passes included in the tuition fee paid by the undergraduate students of the College and University in the service area. In the City, there was minimal use of the

transit systems by school board-funded secondary school students as school busing was provided by the school boards for the students.

2.3 MANITOBA MUNICIPALITIES

Manitoba municipalities have reduced their transit services by about 9% over the past ten years; municipal populations increased by 2% over the period.. On average, student ridership on the Province's transit systems has declined some 48% over the past ten years. Overall, students accounted for 17% of the transit ridership in 1998 as compared to 19% of the transit ridership in 1989.

- In Winnipeg and Brandon, the student ridership level is close to 10 passenger trips per capita which is slightly below the Canadian average and indicative of some use of the transit system by school board-funded students.

2.4 NEW BRUNSWICK MUNICIPALITIES

New Brunswick municipalities have reduced their transit services by about 5% over the past ten years; municipal populations increased by 12% over the period. On average, student ridership on the Province's transit systems have grown about 27% over the past ten years. Overall, students accounted for about 37% of the transit ridership in 1998 as compared to 30% of the transit ridership in 1989.

- In Saint John, the student ridership level is about 12 passenger trips per capita which are close to the Canadian average and indicative of some use of the transit system by school board-funded students.

- In Fredericton, the student ridership level is about 6 passenger trips per capita which is below the Canadian average but may be understated because of reporting issues.

2.5 NEWFOUNDLAND MUNICIPALITIES

St. John's in Newfoundland has reduced its transit services by about 13% over the past ten years; the municipal population increased by 11% over the period. Student ridership on the St. John's transit system has declined some 18% over the past ten years. It accounted for 23% of the transit ridership in 1998 as compared to 24% of the transit ridership in 1989.

- In St. John's, the student ridership level is 5 passenger trips per capita which is below the Canadian average and indicative of minimal use of the transit system by school board-funded students.

2.6 NOVA SCOTIA MUNICIPALITIES

Nova Scotia municipalities have increased their transit services by about 2% over the past ten years; which is consistent with the 11% growth in municipal populations. On average, student ridership on the Province's transit systems has declined some 19% over the past ten years. Overall, students accounted for 10% of the transit ridership in 1998 as compared to 8% of the transit ridership in 1989.

- In Halifax and Cape Breton student ridership levels are about 3 passenger trips per capita which is significantly below the Canadian average and indicative of minimal use of the transit systems by both school board-funded and fare-paying students.

2.7 ONTARIO MUNICIPALITIES

Ontario municipalities have reduced their transit services by about 9% over the past ten years; municipal populations increased by 17% over the period.. On average, student ridership on the Province's transit systems has grown some 9% over the past ten years due mainly to the population growth. Overall, students accounted for 31% of the transit ridership in 1998 as compared to 23% of the transit ridership in 1989.

- In Toronto, Ottawa and North Bay, student ridership levels are over 20 passenger trips per capita which exceeds the levels in most other Canadian municipalities and are high by transit industry standards. In 1998, the three transit systems had high student ridership levels because they transported students to the elementary, secondary and post secondary schools in the service areas, and were the exclusive carrier of eligible secondary school students for the school boards.

- In Kitchener, Oshawa, Newmarket and Cornwall, student ridership levels are close to the Canadian average of 15 passenger trips per capita. In 1998, the four transit systems had good student ridership levels because they transported students to the elementary and secondary schools in the service area, and were the exclusive carrier of eligible secondary school students for the school boards.

- In Hamilton, London, Kingston, and Peterborough, student ridership levels are close to the Canadian average of 15 passenger trips per capita. In 1998, the four transit systems had good student ridership levels because there was extensive use of the transit systems by post secondary students using tuition passes; these are low cost transit passes included in the tuition fee paid by the undergraduate students of the Colleges and Universities in the service area. In all four municipalities, there was minimal use of the transit systems by school board-funded secondary school students as school busing was provided by the school boards for the students.

- In Mississauga, Brampton, Windsor, St. Catharines, Thunder Bay, Sault Ste. Marie, Pickering and Ajax, student ridership levels are close to 9 passenger trips per capita range which is below the Canadian average. This is indicative of some use of the transit systems by school board-funded secondary students.

- In Markham, Vaughan, Oakville, Burlington, Richmond Hill, Guelph, Cambridge, Barrie, Belleville, Welland and Timmins student ridership levels are under 5 passenger trips per capita which is below average and indicative of minimal use of the transit systems by school board-funded students.

2.8 QUEBEC MUNICIPALITIES

Quebec municipalities have increased their transit services by about 8% over the past ten years which is consistent with the 13% growth in municipal populations. On average, student ridership on the Province's transit systems has grown some 8% over the past ten years due mainly to the population growth. Overall, students accounted for 37% of the transit ridership in 1998 as compared to 32% of the transit ridership in 1989.

- In Montreal, Montreal South Shore, Quebec and Sherbrooke, student ridership levels are over 20 passenger trips per capita which exceeds most other municipalities in Canada and are high by transit industry standards. In 1998, the four transit systems had high student ridership levels because they transported students to the elementary, secondary and post secondary schools in the service areas, and were the exclusive carrier of eligible secondary school students for the school boards.

- In Laval and Hull, student ridership levels are 15 passengers trips per capita which are close to the Canadian average. In 1998, the two transit systems had good student ridership levels because they transported students to the elementary and secondary schools in the service area, and were the exclusive carrier of eligible secondary school students for the school boards.

2.9 SASKATCHEWAN MUNICIPALITIES

Saskatchewan municipalities have reduced their transit services by about 18% over the past ten years; municipal populations increased by 5% over the period.. On average, student ridership on the Province's transit systems has grown some 3% over the past ten years due mainly to the population growth. Overall, students accounted for 31% of the transit ridership in 1998 as compared to 17% of the transit ridership in 1989.

- In Saskatoon and Regina, student ridership levels are about 12 passenger trips per capita in 1998 which is close to the Canadian average and indicative of some use of the transit systems by school board-funded students.

2.10 SUMMARY OF CANADIAN EXPERIENCE

Some 31 transit systems or 60% of the municipal transit systems in Canada provide service for school transportation purposes. School transportation, in the transit context, ranges from tailoring transit routes and schedules to the specific needs of students requiring home to school transportation, to arranging with School Boards, Colleges and Universities to accommodate their students on the transit system.

The transit systems that accommodate students for school transportation purposes have higher riderships. Students account for an average of 17 passenger trips per capita or 29% of the ridership on the accommodating systems versus an average of 4 passenger trips per capita or 17% of the ridership on the non-accommodating systems. These are averages for the 53 municipal transit systems serving populations over 40,000 people and reporting ridership broken down by fare categories. The actual figures range from 11 to 36 student passenger trips per capita on the accommodating systems, to 2 to 6 student passenger trips per capita on the non-accommodating systems.

It is clear from these statistics that there are variety of approaches to providing transit/school transportation services. The challenge is to find the approaches that will yield the highest ridership at the lowest cost to taxpayers.

3. TRANSIT/SCHOOL TRANSPORTATION APPROACHES

A survey questionnaire was sent March 10, 2000 to 16 transit properties representing a cross section of the 31 transit systems accommodating students for school transportation purposes. 10 transit properties responded and the results are summarized in Exhibit 2 and discussed below.

3.1 SCHOOL TRANSPORTATION OBJECTIVES

The survey questioned transit properties on the objectives of providing service for school transportation purposes. The properties were asked to rate the importance of the objectives that are most common in the industry. In order of importance, the school transportation objectives were as follows:

- **Reduce net costs/saving taxpayers money** - the most important objective and the main reason that most transit systems are providing service for school transportation purposes is to reduce net operating costs by increasing ridership and revenues without appreciably affecting transit service levels and costs. In some cases, the provision of school transportation services increases net operating costs for the transit system but reduces transportation costs for the school boards which can result in an overall saving to the taxpayers in the municipality.

- **Maximize use of existing transit resources** – of equal importance to the net cost objective is the objective of having a more efficient utilization of the transit system's vehicle and labour resources. By providing school transportation, transit systems can fill unused capacity and improve work assignments to reduce unproductive time.

- **Improving transit service levels to attract more riders** – while the goal of most transit systems is to increase ridership, many systems are operating under financial constraints which limit the extent that services and costs can be increased. Most Ontario transit systems, for example, are keeping service levels relatively constant because of funding changes at the Provincial level. Many systems are operating at capacity during peak periods which limits their ability to pursue new markets, such as school transportation, without adding service and increasing costs and tax burdens. One respondent to the survey wanted to capture about 10% of the student market without increasing costs. For the transit systems operating in constrained fiscal environments, this service objective is less important than the previous cost objectives.

- **Reduce duplication in transit/school transportation** – this objective had the lowest rating of the four objectives identified. Route duplication occurs when the school board's buses serve the same areas as the transit system's routes. While there are often complaints about seeing yellow buses and conventional transit buses on the same streets, in many cases, they are not providing duplicated services as the two systems are serving different markets and different destinations. Route duplication usually occurs when the transit system does not have the capacity to accommodate school transportation. When this is rectified, route duplication will be reduced and will not be an issue. Reduced duplication is a result of school transportation initiatives and does not need to be an objective.

EXHIBIT 2
SURVEY OF TRANSIT AND SCHOOL TRANSPORTATION; EXPERIENCE AND APPROACHES

	Calgary Alberta	Red Deer Alberta	Moncton New Brunswick	Saint John New Brunswick	Cornwall Ontario	London Ontario	Newmarket Ontario	Peterborough Ontario	St. Catharines Ontario	Whitby Ontario
Survey Date	Apr 5/00	Mar 20/00	Mar 21/00	Mar 16/00	Mar 28/00	Mar 21/00	Apr 19/00	Mar 16/00	Mar 24/00	Mar 23/00
Student Passenger Trips in 1999										
Students paying adult fare or using post secondary pass	3,366,800	224,460	-					605,000	430,000	
Students paying student fare	2,616,930	1,271,943	173,500		60,997	3,545,082	620,000	333,000	120,000	208,268
Students using transit fares paid by school boards	13,218,300	-	512,000	521,787	557,092	2,332,718		16,200	556,000	244,280
Students on transit buses chartered by school boards	1,425,700	-	-	36,000	1,000	-				
Total Student Passenger Trips	20,627,730	1,496,403	685,500	557,787	619,089	5,877,800	620,000	954,200	1,106,000	452,548
% of Total Passenger Trips	29.2%	70.4%	47.4%	22.7%	51.8%	45.8%	68.0%	50.5%	41.7%	57.8%
Trend in Student Usage	increasing	increasing	up except in 99	increasing	declining	increasing	stable	increasing	increasing	increasing
Relationship with School Boards on School Transportation										
• Influencing bell times to better utilize the available capacity of the transit system without adding service	5	5	1	3	2	2	1	1	5	5
• Working with School Boards to determine which students can be carried by the transit system	4	4	5	1	3	3	5	2	5	3
• Negogiating rates for with school boards that will result in costs savings to both parties	4	2	5	5	5	2	5	1	5	5
• Planning/scheduling school transportation services for school boards including yellow school bus routes	5	1	1	1	1	1	5	1		4
Most Common Approaches to Accommodating Student Demand										
• Utilizing available capacity of transit system	5	5	5	5	5	4	5	5	5	5
• Inserting trippers in the schedule at bell times	4	5	1	5	5	4	5	4	5	5
• Deviating/adding transit routes at bell times	5	5	4	5	5	2	5	1	5	5
• Increasing frequencies in school corridors	5	2	1	5	5	3	5	4	5	4
• Having school boards charter transit buses	3	1	5	5	1	1	1	1	1	
Why School Transportation Services Are Being Provided										
• Reduce net costs of transit system	5	5	5	5	5	4	5	5	5	5
• Maximize use of existing transit resources	5	5	5	5	5	4	5	5	5	5
• Improve transit service levels to attract more riders	4	4	3	3	5	5	5	5	5	4
• Reduce duplication in transit/school transportation	5	3	5	2	3	3	5	3	5	4
Challenges and Barriers to Obtaining Support of School Boards										
• Funding Issues (I e education grants discourage an integrated approach to transportation)	not an issue	not an issue	need to create a "partnership"	not an issue	not an issue	important	no support from Boards	need lump sum grant	not an issue	
• Financial Issues (keeping transit costs competitive with yellow school busing costs)	not an issue	taxes increase if use yellow buses	need union to be competitive	charge a % of transit fare	rate competitive with yellow bus	charge regular student fares	charge regular student fares	can negogiate best rate	determining a competitive rate	
• Policy Issues (maintaining responsibility and control of service levels, behaviour, operating practices)	ability to influence bell times	Boards help in behavioural situations	Boards handle all discipline	no problems	Boards insist buses be on time, no waiting		Transit handles discipline	no problems	students can be disruptive	
• Attitude Issues (overcoming parental pressure for door-to-door service, safety concerns,mixing adults)	not an issue	some pressure from parents	pressure from Gr 6-8 parents	behaviour in mixe loads a problem	not an issue	important	work with parents on this	transferring an issue on transit	not an issue	
• Other Issues	autonomy of principals, tend to ignore transit	boards becoming more flexible in setting bell times						most yellow bus routes start outside of City	Board/school bus relationships difficult to`break	
Advice on Using Integrated Approach to Transit/School Transportation	show Boards value of transit involvement, attending extra curricular events special programs after hour jobs	close contacts & working relation-ships needed. Develop good base routes to reduce the trippers	dedicate buses when students are too dense to integrate, start with high school expand to middle school	utilize existing service as much as possible at a rate which saves boards money	pricing needs to be beneficial to both parties, drivers need to be trained in dealing with children		try to work together, not against each other as now	it can work, look for opportunities	approach on an incremental basis	let transit have input on bell times

There are variety of traditional and non-traditional approaches to meeting these school transportation objectives. The approaches can be grouped into categories related to fares, services and operations. A review of the Canadian experience in each of these categories is provided in the following sections.

3.2 FARE RELATED APPROACHES

The most common approach for providing service for school transportation purposes is to give students discounted fare rates on regular transit services, as follows:

- ***Cash Discounts*** – 51 transit systems offer primary school students and 35 transit systems offer secondary school students a discounted cash fare; 18 transit systems do not offer primary and secondary school students a cash discount. No transit system offers post secondary students a cash discount. The cash discount is normally about 25% of the adult cash fare and, in most cases, ranges from $1.00 to $1.75 when the adult fare is $1.50 to $2.00.

- ***Ticket/Ride Card Discounts*** – 44 transit systems offer primary school students and 42 transit systems offer secondary school students a discounted ticket or ride card; 25 transit systems do not have tickets or ride cards for primary and secondary students, and no transit system has tickets or ride cards for post secondary students. The discount and ranges are about the same as the cash discounts.

- ***Unrestricted Monthly Pass Discounts*** – 40 transit system offer primary school students, 56 transit systems offer secondary school students and 23 transit systems offer post secondary students a discounted unrestricted monthly pass. The discount is normally 15% to 40% of the adult monthly pass rate and ranges from a monthly rate $19.50 to $75.00.

- ***Restricted Monthly Pass Discounts*** – 4 transit systems offer primary school students, and 10 transit systems offer secondary school students, discounted restricted monthly pass. The restricted pass can only be used on school days usually during the daytime only; and they are usually not transferable. The discount ranges from 10 to 50% of the unrestricted student

  Restricted unit prices range from $0.50 to $1.00 per ride which compares to per student school busing costs which experience has shown can range from $0.30 to $0.75 per trip for secondary students. While the restricted monthly pass has the advantage of being more competitive with school busing costs, it is not as convenient for users, particularly for students attending after hours extra-curricular activities. It can also cause fare disputes because of the restrictions.

- ***School Board Discounts*** – most transit system provide the school boards with monthly passes or tickets for use by eligible students requiring school transportation on the transit system; most of the students who are provided passes or tickets are secondary school students. The school boards purchase the passes or tickets at agreed rates and distribute them to the eligible students requiring transportation. The school board rates are usually the established discounted student restricted or unrestricted monthly pass rates, although some transit systems further discount the pass rates to make them competitive with yellow school busing costs. In Cornwall, for example, the school boards are charged a monthly rate of $32.34 per student versus its student monthly pass rate of $42.00.

This is the fare-related area where there is considerable potential to increase student ridership and revenues. The student monthly pass rate in many transit systems exceeds the cost of transporting students by school bus; in some cases, it can cost an average of $1.00 per trip to transport a secondary student on a $44.00 monthly pass versus $0.75 or less per trip to transport a secondary student on school buses. If school transportation can help transit fill its unused capacity, then transit cost increases can be kept to a minimum and lower rates can be negotiated with the school boards. The transit systems in the South York Region (Richmond Hill, Markham, Vaughan) are considering a special rate of $0.50 per trip ($20.00 monthly pass rate) to transport students for the school boards if existing capacities are utilized and transit costs are not increased.

- ***Ride Discounts with Semester Passes*** – 20 transit systems sell post secondary students 3, 4 or 5 month transit passes to cover the College and University semesters. They are usually for unrestricted use during the semester. The semester pass rates are usually based on the student monthly pass rate and are usually not discounted more than the monthly pass rate. Semester passes are issued as a convenience to users for school transportation purposes, and are not considered to be a ridership generating strategy.

- ***Ride Discounts Using Tuition Passes*** – 6 transit systems provide post secondary students with passes for unrestricted use of the transit system during the school year. These include the following systems:

Guelph	$24.00 per semester($48.00 Sept.-Apr.)/University
Hamilton	$58.00 Sept.-Apr./University
Kingston	$36.00 Sept.-Apr./University $25.00 per semester($50.00 Sept.-Apr.)/College
London	$79.00 Sept.-Apr./University $95.00 Sept.-Apr./College
Peterborough	$115.70 Sept.-Apr./University
Victoria	$44.00 per semester($88.00 Sept.-Apr.)/University & College

The cost of the tuition passes are covered in the College and University tuition fees and are made available to all undergraduate students for the semester or school year. They are provided at a fraction of the cost of a monthly pass since all students are charged this fee in their tuition but many do not use the pass consistently; studies have shown that only about 10 to 15% of the students use the transit system at any one time. Most transit systems provide tuition passes at a 65 to 90% discount over the cost of student monthly passes for the school term; In Hamilton, for example, an eight month University tuition pass costs $58 versus $344 for 8 student monthly passes (an 83% discount).

Tuition passes are proving to be a major contributor to high student ridership on transit systems, and are an important ridership generator for transit systems with Colleges and Universities.

3.3 SERVICE RELATED APPROACHES

When deciding on school transportation, a municipality must firstly decide how it wants to accommodate students on its transit system so that it can meet its objectives. If the objective is to hold the line on costs, then there is no point in expanding the bus services so that all school board-funded students can be accommodated. A partnership needs to be developed with the school boards so that the most cost-effective mode of transportation is chosen for students requiring school transportation. In this regard, there are three approaches that can be considered when arranging for student travel with the school boards::

- **Capacity Utilization Strategy** - this approach was rated as the most important by the survey respondents. It works with the school boards to shift junior and senior (Grades 7 to 12) secondary school students to public transit where there are empty seats on the transit buses. The objective is to have the seats filled by students at no additional cost to the transit system, and can be a potential saving to the school boards if school bus routes can be shortened or eliminated. This strategy works well when the high school demand is in the opposite direction to the work trip demand; for example, transporting workers to downtown businesses on the inbound trip and secondary students to the high schools outside the downtown on the outbound trip in the morning.

  This approach requires an understanding of the student demands, transit running times and loadings, school bell times, and the school board policies related to walking distance, pick-up/drop-off criteria, transferring, and on-bus seating arrangements. In a recent study in Prince George British Columbia, it was found that public transit would drop students off at school more than 20 minutes before the morning bell time and pick them up more than 20 minutes after the afternoon bell time which was unacceptable because there would not be supervision at the schools.

  To be effective, the capacity utilization strategy needs the cooperation of both parties; the school boards to adjust bell times if necessary, and the municipality to adjust its transit schedules so that the transit system can adhere to the board's time policies, and utilize its available capacity more effectively.

- **Route Modification Strategy** - this approach was rated as the next most important by the survey respondents. It modifies transit routes so that more school students can be carried on transit at a lower combined cost to the municipality and school boards. In order of importance, the modification strategies that are normally used include:

  - ***Inserting extra buses or trippers in the schedules of critical routes at bell times*** – while many transit systems insert extra buses or trippers into their schedules to handle the school transportation demands of fare-paying students, most systems will resist adding more trippers to handle board-supported students unless the Board-revenue will offset the additional operating costs of the trippers. The challenge is to work with the school boards to fill the trippers that are already in place or can be put into place on a cost recovery basis. An interesting opportunity is being investigated by the transit properties in the South York Region and that is to use the yellow school buses of the school boards to provide the tripper services as a part of their school bus

runs for the boards; this could reduce tripper costs by as much as 50% enabling the municipalities to break-even on their tripper services.

- ***Increasing the frequencies on the routes in the school corridors during school times*** – this strategy is favoured by a number of transit systems because it enables frequencies to be increased for the three or four hours of the peak periods to the benefit of all riders as opposed to the one-time increase when trippers are used; in fact, trippers are often double-headed with the scheduled service which does not increase the frequency for users or help to attract new riders to the service. Increased frequencies will not necessarily result in more board-funded students being carried unless the schedules can be made to coincide with the school boards pick-up and drop-off policies. The challenge is to work with the school boards to spread the student demand so that higher frequency and less tripper services can be provided to the benefit of all parties as higher frequencies usually attracts more riders; spreading the student demand will require adjustments to the bell times in the school corridors.

- ***Deviating routes to accommodate the school transportation demand at bell times*** – some transit systems deviate routes to serve the major secondary schools at bell times, although this is not standard practice because of the inconvenience to non-school users. Most transit systems try to structure their base routes so that the major secondary schools are served without the need to deviate at bell times.

- ***Adding special school routes to accommodate the school transportation demand at bell times*** - some transit systems operate trippers on special school routes in the catchment areas of the major secondary schools; the special routes usually serve students who are not eligible for Board-funded transportation either because they are within the Board's walking distance policy or have chosen to go to a school outside their area. In some transit systems, such as London, special tripper routes are being provided because the school boards increased their walking distance policies for secondary students (in London's case, from 3.2 km to 4.8 km), causing many students to switch to transit as fare-paying riders. In some transit systems, such as Red Deer, special tripper routes are being provided to relieve the congestion on the base routes; called direct destination trippers, the special routes do not converge on the city centre as the base routes do and, as a result, they reduce student transfers and downtown congestion. On this service, Red Deer uses conventional 40' buses and can carry twice the number of students as yellow buses when standees are taken into account; it advised that City costs would increase if the school boards were to provide the service using yellow school buses.

Special routes for school transportation purposes are not competing with the school bus services of the school boards because they are usually designed to serve students not eligible for board-funded transportation. An interesting alternative to this approach is Route 2A in Richmond Hill. Route 2A is in the service area of former school bus routes of the York Region school boards. It was developed in 1998 as a branch of one of Richmond Hill's main routes and was designed to replace the school bus routes and bring an unserved subdivision into the transit service area; the revenue from the board-funded students ensured that the route would be financially viable at the outset. The route has been so successful that the

school boards have been able to drop their support for the students in the area, and the transit system has been able to break-even on the costs.

- ***Route Integration Strategy (New Opportunity)*** - this approach integrates transit and school bus routes to improve transportation access in areas poorly served by the transit system. This is a new opportunity as it has not been tried in any municipality to date, although Richmond Hill and Vaughan in the Toronto area will be implementing the strategy in September 2000 with the cooperation of the York Region school boards. The strategy uses school buses to provide a fixed route, fixed scheduled service in underserved residential areas that have board-funded school transportation services.

  Initially, the school bus routes would be restructured to operate on a fixed schedule fixed route basis before the morning and following the afternoon bell times in order to transport students between their homes in the area and a timed-transfer point with transit system. At the transfer point, students would use the transit system to travel to and from their schools. In later stages, the school bus routes could be opened to the general public and their span of service extended throughout the peak period. In the Richmond Hill/Vaughan case, the strategy will generate new ridership and revenue for the transit system without increasing the costs as there is available capacity for students on the transit buses in the affected transit corridors, and available capacity for adults on the school buses in the target area. In the case of the York Region school boards, the strategy will enable several school bus runs to be shortened which will reduce their costs. Presently, the municipality and school board are working on a formula to share the cost savings.

3.4 OPERATIONS RELATED APPROACHES

The least common approach to the provision of school transportation services and the one that was rated the least important by the survey respondents is the approach that has the school boards charter transit buses from the transit system to accommodate its home to school, school to school, or special outing demands. Most transit systems have got out of the school charter business because they do not want to or cannot compete with the private sector. Private operators maintain that they can provide charter services at lower rates when all costs are taken into account. Many transit systems have got out of all charters so that they can concentrate on their main business of providing traditional public transit services.

The reverse to the transit charter approach is the approach that has the transit system charter school buses from the school board's bus contractors. While uncommon in Canada, this operating strategy utilizes the resources of local school bus contractors to provide mid-day and/or evening transit services in areas where off-peak services cannot be justified. School bus contractors bid to supply the transit services on a marginal cost basis using their yellow school buses. Marginal costs are the direct cost of drivers, maintenance and profit; marginal costs are used because the contractors have already recovered their capital, administration and overhead costs from the school transportation contracts with the school boards. Markham Transit is applying this concept, and is showing that evening services, using contracted yellow school buses on a marginal cost basis, can be accomplished for about one-half the cost of conventional transit services.

4. ADMINISTRATIVE ARRANGEMENTS

While the provision of school transportation services does not require their cooperation, revenues can be increased and operating costs can be reduced if there is a strong relationship with the school boards. They influence bell times which determine the timing of the demand for school transportation services. They set walking distance criteria which determine who is eligible for home-to-school transportation. They set the transportation policies which determine how the eligible students are to be transported.

Almost all properties surveyed for this project, advised that transit systems needed to develop a partnership with the local school boards. The following are a summary of some of the key comments:

- "we have cooperative relationship with school boards and well defined roles; includes daily contacts by phone and E-mail, monthly meetings"
- "we have developed good two-way communications with our school boards"
- "our transit system has an on-going working relationship with the school board to utilize existing transit service as much as possible. We try to have a student rate which saves the school board money"
- "we have excellent relationship with school transportation officers; the key to our success is good lines of communication, swift and prompt action to any problems, well trained operators"
- "because of our long standing established relationship with the school boards, we have found several areas of opportunity including yellow school bus routes that can be replaced with transit"
- "we have had a full partnership with the school boards since 1983; we share the gains with them"
- "we set and communicate maximum capacities that work for the school boards, we stay in close contact working to resolve situations together, we get together annually to review how things went and consider possible system changes"
- "we had a strong relationship with the school boards which was an advantage to all concerned. Because of the success, the school boards have stopped supporting secondary school students in our service area which has reduced our student ridership and cut our revenue. Worse, the school boards are allowing pay for use on its school buses which is undercutting our fare rates and duplicating our transit runs"

Transit/School Board partnerships can be informal or formal.

4.1 INFORMAL PARTNERSHIPS

Transit systems providing school transportation services usually establish informal relationships with the school boards and their transportation officers.

- **Jurisdictional Issues/Roles** – in the situations where there are informal partnerships, the transit systems or the school boards do not get involved in the planning, scheduling and management of each other's operation. The two jurisdictions set their own transportation policies and standards, and expect their policies and standards to be adhered to. The two jurisdictions, however, can provide policy input to create a positive environment for the two transportation systems.

- **Demand Management Issues** – two of the most important demand management strategies are to control the number of students that can be carried by the transit and school bus systems and to change the bell times to spread the demand so that there is a more efficient utilization of transit and school board resources. A strong transit/school board working relationship will accomplish these strategies.

  Several transit systems, Calgary Transit for example, have indicated that they can influence bell times and can get the school boards to maintain bell times without change if necessary as changing bell times can overload transit services in some cases. Some transit systems have indicated that even though they can influence bell times, they do not have the capacity to accommodate all of the student demands unless major shifts were made in bell times so that there are not conflicts with their commuter traffic; bell time shifts of 60 minutes or more would be unacceptable to parents and students. Related to the bell times are when there are late starts or early dismissals at schools for various reasons; good communications with the school boards will alert transit to the changes so that it can adjust its service accordingly.

- **Operations Management Issues** – the main deterrent to transit/school board cooperation in the delivery of transportation services is related to operating practices and how they are perceived by the stakeholders; parental pressure for door-to-door service, perceived safety concerns particularly related to standing on buses and transferring, resistance to the mixing students and adults on transit buses, the handling of disruptive and inappropriate behaviour, discipline. These issues tend to be more related to the transportation of primary school students (K to Grade 6 students) than to the transportation of secondary school students which are of primary interest to transit. School boards can be transit's ally in addressing these problems because a strong transit system benefits all stakeholders.

  A number of transit properties indicated transit had many positive benefits over school busing that more than offset the negative aspects. The most important being the freedom that students have in being able to attend extra-curricular activities outside of school hours and to get access to after-school jobs and special programs.

- **Pricing and Financial Issues** – the most contentious issue is the rates that transit systems charge for transporting students for the school boards. While the education grants that the Provinces provide their school boards do not discourage the use of public transit for school transportation purposes, they do not consider the overall taxpayer. A school board that pays more to transport students on public transit will not receive a higher subsidy even if the payment results in an overall saving to the local taxpayers. In most cases, transit is forced to compete with lower cost yellow school buses if it wants to carry board-funded students. Most transit systems do not consider this to be a major issue, either because they have chosen not to

carry board-funded students at rates lower than their student fare, or they have been able to work with the school boards to fill their unused capacity so that they can charge rates that are lower and more competitive. The latter creates a "win/win" situation which benefits both parties by lowering net operating costs. It needs demand management and the sharing of the cost savings which requires cooperation on the part of the transportation officers and transit planners and an informal partnership at the policy levels of the transit agency and school boards.

4.2 FORMAL PARTNERSHIPS

While uncommon in Canada, a few transit systems have developed more formal arrangements with their school boards in an effort to integrate school board transportation services with the transit services of the municipality in order to provide a broader range of service for student customers and the most efficient utilization of existing public expenditures. Under a formal partnership, the transit system provides management services for the school boards, including the design, scheduling and monitoring of school transportation services for eligible students, students may be carried on transit buses and/or on buses to be chartered from private school bus operators; the school boards sets the policies, determine the students to be carried, and enter into the appropriate contracts with the private school bus operators. The transit system adheres to the Board's service policies and standards, manages the private contracts, and deals with the schools on transportation issues and with students/parents on service issues. The formal partnership deals with most of issues addressed by informal partnerships. The main difference is that the formal partnership does this by agreement which sets out the terms and conditions which are approved by all parties beforehand.

Until recently, Calgary Transit and Edmonton Transit were the only transit systems in Canada that had formal partnerships with their school boards. The Calgary Transit/Public School Board contract was cancelled in 1999 because the public board couldn't see the advantage of having two bureaucracies handling school transportation. The loss did not affect student ridership because there has been an understanding for some time that Calgary Transit will carry all eligible secondary school (senior high school) students for the public board.

5. CONCLUSIONS

Students can represent a very significant market segment for transit systems, particularly for transit systems in small to medium sized municipalities. The research has shown that student ridership can range from as low as 7% to as high as 70% of total ridership depending on how the transit system accommodates students for school transportation purposes.

The research has identified the various transit/school transportation approaches and administrative arrangements that are being applied to accommodate and expand the number of students carried by transit systems. The critical basis for any of these initiatives lies in building strong communications and positive relationships with school board transportation management. When setting up an effective communications process, there are several key steps that need to be considered:

- the first step is to understand where and when there is available capacity on the transit routes to carry students for the school boards, with and without modification to bell times. Start with high school students. Get student transportation information from the school boards to determine the transit opportunities. Review the potential costs and determine a pricing package that will be beneficial to both parties.

- the second step is to open up lines of communication to make the school boards aware of the opportunities if transit has the capacity to carry more school students at a lower combined cost to the municipality and school boards. Communicate the efficiencies that can be realized if bell times are changed to spread the demand. Do a cost-benefit analysis to show the school boards the value of transit involvement in school transportation (lower costs, more flexibility for students to attend extra curricular activities and jobs, better allocation of school board resources).

- the third step is to present partnership opportunities that will save the school board and municipality money over the short term. Approach incrementally on a small scale to gain experience and confidence; if successful, will lead to other opportunities. Get together annually to review how things went and consider possible additions and changes prior to planning overall annual system changes. Recommend school bell times for the fall semester.

- the fourth step is to have operating principles and practices in place so that all situations can be handled effectively; need to ensure the service will be available when promised, will have high levels of safety and security, will take swift and prompt action to resolve problems, and will have well trained operators . In this, it is important to maintain good lines of communication with the school board transportation officers including daily contact by phone and E-mail.

These four steps are based on the actual experience and advice of the transit systems that were surveyed for this research project. They can be considered as keys to the successful implementation of a more integrated approach to transit/school transportation services in Canadian municipalities.

APPENDIX A

Survey Questionnaire on School Transportation Approaches

SURVEY OF TRANSIT AND SCHOOL TRANSPORTATION; EXPERIENCE AND APPROACHES

1. TRANSIT SYSTEM _____

Key Contact on Student Transportation _____

Telephone: _____ Fax: _____ E-Mail: _____

2. STUDENT TRANSPORTATION

2.1 Please estimate the student (under 25) passenger trips on your transit system for 1999. If the trips are unknown, indicate the revenue that you received from the following student ridership categories:

Students paying adult fare (cash, ticket, pass) _____
Students paying student fare (cash, ticket, pass) _____
Students using transit fares paid by school boards _____
Students on transit buses chartered by school boards _____

2.2 Over the past five years, what has been the trend in the number of students using school board purchased transit tickets and passes. If declining, please explain the reasons

_____ _____
_____ _____

3. APPROACHES TO THE TRANSIT/SCHOOL TRANSPORTATION ADMINISTRATION

3.1. Please explain your relationship with the local school boards and their transportation officers (when was it established, what is being done, what are the keys to success, what are the things to avoid, what are the failures?) _____

_____

3.2 Which of the following have you been able to achieve with this relationship? Please rate the importance on a scale of 1 to 5.

	don't do/not important 1	2	3	4	very important 5
• Influencing school bell times so that we can better utilize the available capacity of our transit system.	☒	☒	☒	☒	☒
• Working with the school boards to determine which students can be carried more efficiently by transit	☒	☒	☒	☒	☒
• Negotiating rates for student travel with the school boards that will result in cost savings to both parties	☒	☒	☒	☒	☒
• Planning and scheduling school transportation services for the school boards including yellow school bus routes	☒	☒	☒	☒	☒
• Other (explain) _____	☒	☒	☒	☒	☒

3.3 Please indicate the most common approaches that you are taking to accommodate the school transportation demand on the transit system. Please rate the importance on a scale of 1 to 5.

	not important 1	2	3	4	very important 5
• Utilizing the available capacity of the transit system without adding service	☒	☒	☒	☒	☒
• Inserting extra buses or trippers in the schedules of some routes at bell times	☒	☒	☒	☒	☒
• Deviating routes and/or adding special routes to accommodate the school transportation demand at bell times	☒	☒	☒	☒	☒
• Increasing frequencies on the routes in the school corridors during school times and reducing them during the summer	☒	☒	☒	☒	☒
• Having the school boards charter transit buses from us to accommodate the demand	☒	☒	☒	☒	☒
• Other (explain) _____	☒	☒	☒	☒	☒

4. CHALLENGES AND BARRIERS

4.1 By providing service for school transportation purposes, you are trying to achieve the following goals (please rate on a scale of 1 to 5):

	not important 1	2	3	4	very important 5
• Reducing net costs/saving taxpayers money	☒	☒	☒	☒	☒
• Maximizing the use of existing transit resources	☒	☒	☒	☒	☒
• Attracting more riders by improving transit service levels	☒	☒	☒	☒	☒
• Reducing duplication in transit/school transportation	☒	☒	☒	☒	☒
• Other (specify)_____	☒	☒	☒	☒	☒

4.2 What were/are the greatest challenges or barriers in obtaining the support of the school boards, and to what extent were they overcome?

1. Funding Issues (i.e. education grants for transportation discourage an integrated approach to transit/school transportation services?) _____

2. Financial Issues (i.e. keeping our costs competitive with yellow school busing costs, what do we charge the school boards if we can carry students and no additional cost to transit?)

3. Policy/Institutional Issues (i.e. maintaining responsibility and control of service levels, behaviour, operating practices etc.) _____

4. Attitude Issues (i.e. overcoming parental pressures for door-to-door service, perceived safety concerns, mixing students and adults, adult rider perceptions) _____

5. Other Issues (please explain) _____

4.3 What advice would you offer transit systems or school boards about using an integrated approach to transit/school transportation services? _____

Thank You For Your Assistance

Please fax to IBI Group (Attn: Dawson Catton)
at (416) 596-0644 by March 21, 2000

APPENDIX B

Bibliography

Appendix B: Bibliography

1. **Working with School Boards**; Presentation by Ed Granger, Lethbridge Transit; CUTA 1987 Fall Conference.

2. **Working with School Boards**; Presentation by F. McCarey, Saint John Transit Commission; CUTA 1987 Fall Conference.

3. **The Urgent Need to Rationalize Urban Transit and School Busing;** CUTA Position Paper 1994.

4. **Transit & School Bus Integration - Does One Bus Fit All?**; Presentation by Vince Mauceri, City of Burlington; CUTA 1995 Fall Conference.

5. **Transit & School Bus Integration Comprehensive Report;** Price Waterhouse; 1995.

6. **Transit and School Bus Integration Planning Guidelines for STIPM;** Price Waterhouse; 1995.

7. **Joint Study on Student Transportation in St. Albert**; Sypher: Mueller International Inc.; 1995.

8. **School Transportation;** Presentation by Dave Gaze, Saskatoon Transit Services; CUTA 1998 Annual Conference.

9. **Integrating School Bus and Public Transportation Services in Non-Urban Communities** (TCRP Report 56); Transportation Research Board; Multisystems and IBI Group, 1999.

10. **South York Region Student Transportation Strategic Review;** IBI Group 1998.

11. **South York Region Student Transportation Demonstration Project;** IBI Group 2000.

12. **Prince George Student Transportation Study;** BC Transit and Ministry of Education; Urban Systems 2000.